

PROGRAM DESIGN FOR POLICY,
INSTITUTIONAL AND REGULATORY REFORM IN THE
CITY OF LAHORE

TRANSPORT PLANNING IN LAHORE

AR. SARAH MUSHIR NAQVI



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POSITION PAPER - II

TRANSPORT PLANNING IN LAHORE

AR. SARAH MUSHIR NAQVI

Centre for Public Policy and Governance
Forman Christian College (A Chartered University)
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FOREWORD

The Centre for Public Policy and Governance (CPPG), Forman Christian College (A Chartered University) Lahore started Program Design for Policy, Institutional, and Regulatory Reform in the City of Lahore in collaboration with the United States Agency for International Development (USAID) FIRMS Project in November 2012. The purpose of the project was to prepare Lahore Vision 2035 to support the preparation of Integrated Strategic Development Program for Lahore Region 2035 (IDSP-35), by the Lahore Development Authority (LDA). The drafting of Lahore Vision 2035 was considered necessary because it was felt and conveyed by several experts and institutions that Lahore was not utilizing its full potential for achieving economic growth due to inadequate policy choices and institutional arrangements. While Director, CPPG supervised all activities of the project; Dr. Imdad Hussain was selected by the CPPG as the Lead Researcher. He built a team of more than ten consultants/researchers who collected and consolidated urban research carried out by public and private sector entities in order to prepare Lahore Vision 2035. To ensure that Lahore Vision 2035 is designed by practitioners, professionals, architects, engineers, urban developers and grass root civil society community activists, we created a 15 member Core Working Group (CWG). The CWG played a pivotal role in mentoring and providing guidance to our team of researchers. In consultation with the CWG, we embarked on a program to develop five Position Papers. This is the second of the series. While we remain indebted to each member of the CWG for their advice and guidance for specific position papers, I am particularly grateful to Mr. Suleman Ghani for his clarity of purpose, dedication and invaluable assistance and advice throughout this project.

The study provides a comprehensive review of growing demand, challenges and opportunities that changing forms of transportation offer to the city of Lahore. The growing nexus between the rate of urbanization and the increase in the demands of transportation have put enormous pressure on the traffic systems of the mega cities and Lahore is no exception. It correctly laments the decline of public transport system in Lahore while the forms of transport have become varied and complex. According to the study the city has 5 million vehicles operating on the road which includes cars, wagons, motor-bikes, buses and rickshaws and noisy Qinqis. This decline of public transport has had two significant impacts; first public transport is suffering from serious management crisis and it has become expensive for the ordinary citizen, the private sector is not forthcoming and the public-private partnership has also shown limited success; second traffic monitoring, regulation is under stress noise pollution, road rage and violation of traffic rules are emerging as serious behavioral problems. Identifying and analyzing these challenges the study makes a number of recommendations. At the institutional level it proposes creation of an autonomous transport authority and capacity building of those who monitor transport planning and management. The Position Paper outlines educational awareness programs for the commuters; it propounds compliance of traffic rules, suggest ways for controlling rage and imposing speed limits. The study makes a strong case for gender inclusiveness in the sense that the transportation must be inclusive and take care of the marginalized: children, elders, poor and disabled. The study also recommends separation of lanes for the pedestrian and cyclists. It espouses protection of the cultural heritage and strongly advocates minimizing carbon emissions. The study recommends a paradigm shift in managing transport in the city that is people centric and environment friendly. We would welcome any comments/critique and do hope that policy makers in Punjab Government and citizens across the province and from various walks of life would strive to put some of these recommendations into reality.

Dr. Saeed Shafqat
Convener, Lahore Vision 2035

ACKNOWLEDGEMENTS

I would like to express my most sincerest appreciation for my parents and my late grandfather Mr. Majid Naqvi, for teaching me life's lessons, instilling sensitivity in me regarding social issues and making me aware of my responsibilities as a citizen.

My utmost regards are reserved for Dr. Imdad Hussain and Dr. Saeed Shafqat for believing in me. Their constant encouragement, valuable guidance and feedback shaped my study. Words are not enough to thank them for their patience and being available to answer my questions at all times and believing in me when I had doubts about myself.

I am deeply indebted to Mr. Mazhar Iqbal, Mr. Suleman Ghani & Dr Murtaza Bokhari for their kind support.

I would particularly like to thank all core committee members for Lahore Vision 2035 project, who participated in the consultative seminars their valuable feedback and extensive comments have been incorporated in the final paper.

Deserving a special mention, are my friends that I made at CPPG especially Mr. Shahmir Hamid, research assistant, who helped me in the initial stages of the study.

In the end I would like to pay my respects to CPPG for providing me with a platform where I can contribute in a positive way for my beloved city, and also rewarding me with friends and excellent memories to cherish.

Sarah Mushir

LIST OF ACROYNMS

LDA	Lahore Development Authority
DHA	Defence Housing Authority
TD	Transport Department
LTC	Lahore Transport Company
PMA	Punjab Metro Bus Authority
TEPA	Traffic Engineering & Planning Authority
NESPAK	National Engineering Services Pakistan
CDGL	City District Government Lahore
NHA	National Highway Authority

EXECUTIVE SUMMARY

This report presents a vision for the transportation system of Lahore twenty years ahead with strategies and recommendations for realization of that vision. It is based on the premise that transportation systems are developed to help achieve societal goals and transport planning and projects can both support and catalyze change. The aim is to provide a blueprint for Lahore's transportation system which supports a dynamic vision for Lahore and the strategies aim to reverse the existing upward trends in auto-dependence, environment degradation, in order to make Lahore, a vibrant city. We envision a transport planning system that enhances opportunities for recreation; makes education, business and travel a pleasure, and facilitates the emergence of an integrated transport network that makes Lahore a regional hub.

The urban transport in Lahore presents a dismal outlook. The importance of a well functioning and integrated transport system of a city cannot be overstated. It serves as the backbone of a successful city which aims to become economically viable, clean, accessible and equitable. Lahore's transport system suffers from three serious ailments; ad hoc policy, environmentally insensitive transport and ineffective regulatory framework.

Lahore's population is estimated to be around 10 million and is growing at a rate of 3.32% per annum. In the last two decades rapid population growth and motorization have emerged as twin transport problems. Decline and deterioration of public transport system has aggravated traffic system of the city. Unplanned and inadequately regulated motorization has led to myriad of traffic problems, namely; heavy congestion during peak hours, traffic jams, and routine violation of traffic rules, road accidents, and environmental degradation. Despite a number of initiatives taken by the government the growing problems of congestion and traffic gridlock constrain growth and reduce the city's competitiveness.

This position paper aims to appraise Lahore's transport system from three perspectives; (1) identify mobility trends (2) list critical issues which require immediate attention; (3) give recommendations for a sustainable transport policy, which enhances public transport use; tackles auto dominance, encourages bicycling and walking.

Current Situation of Transport in Lahore

Institutional: At present there are at least seven government agencies responsible for Lahore's road and traffic data. These multiple planning agencies collect data for their own purposes and sometimes the surveys are repeated on the same road within a year by different agencies and consultants. This is an indication of poor coordination and communication between agencies and the citizens. There is a lack of a single agency or department responsible for maintaining transport and traffic data and an adequate system to keep updated data like vehicle ownership, driving licenses which is also a major issue. Urban transport problems in Lahore are mostly managed by widening or building larger, better roads and flyovers. This bureaucratic and project centric approach is inadequate to meet transportation challenges. Lahore has a history of incomplete and poorly envisioned projects as the city suffers from ad-hoc planning with little strategy and coordination. Budget constraints, limited funding and unclear status of committed projects further add to the dilemma.

Declining Public Transport: Our exploratory research indicates that the city's public transport sector is sparse, inadequate, and lacks the capacity to meet the growing demands of rapidly increasing population, hence a huge gap between demand and provision of services. It is also unaffordable to most of the urban poor. Decline of

public transport system, has led to small private operators filling the gap. As a result chaotic mass of privately owned small vehicles (cars, wagons, qingqis, motorbikes and rickshaws) dominate the road space. Lahore's vehicle population is 5 million, out of which there are about 80,000 rickshaws, 40,000 qingqis operating in Lahore. Bus stops are not properly marked and operators pick and drop commuters at unauthorized locations. The existing public transport management is inadequate and deficient in professional administration. It fails to cater for the needs of the marginalized groups (women, children, poor, and elderly). The focus is on grandiose projects which lead to sprawl and auto dominant communities which are hostile to collective modes of transport. Billions of rupees are spent on infrastructure, while more funding should be allocated to enhancing public transport.

Road and Traffic Management: Encroachments are a serious traffic hazard. Yet streets are filled with retail encroachments and street vendors. The parking spaces are limited for commercial shops and many street vendors earn their daily income from street activities. There is poor management of space available as Lahore suffers from a chaotic mix of pedestrians, carts, bikes, motorbikes, rickshaws, cars; widespread encroachments can be seen in most places. Poor management of physical infrastructure, road maintenance, pavement failures, and chaotic rainy season makes commuting extremely difficult. Enforcement of traffic rules is increasingly becoming a challenge.

Roadway design and Parking Management: No roadway geometric design standards exist in Punjab and major design firms follow American standards (AASHTO) for designing rural or urban streets. These standards are designed for homogenous traffic and do not consider the impact of rickshaws, qingqis, and carts, etc. There is absence of dedicated parking facilities hence vehicles are illegally parked on streets. Land in Lahore has been continuously encroached by illegal parking along roads; it reduces operational capacity of road due to friction of parked vehicles and occupancy of road space. No parking design standards or guidelines exist. Moreover there is no parking policy existing for Lahore or Punjab for overall managing parking and providing such facilities. Traffic laws are not applied on cyclists; animal drawn carts push carts and pedestrians while they make 70% of total road users. Traffic police do not have adequate authority to remove encroachments. Work zone, school area signage is also nonexistent; as these fall under the jurisdiction of District Administration

Mission: What needs to be done?

What we require is a sustainable transport system and a barrier free-environment which starts with pedestrian and street environment and then goes on to deal with public transport building and infrastructure. A sustainable transport system can be judged against few benchmarks: it should provide solutions to environmental challenges faced by the society, act as catalyst to the economy, contribute to well being, quality of life, and deliver social justice and be respectful of human dignity.

Strategic Themes & Directions for Lahore

- We need to learn from past failures in transport planning and projects which were plagued by poor implementation, high costs, untested technologies and unaffordable transport services.
- Motorization needs immediate regulation and reduction to curb traffic jams and air pollution. Transport system needs to be designed and operated to provide safety and health for its citizens and also enhance quality of life and improve livability.
- Resources should be dedicated to funding public transport projects, developing bicycle lanes, pedestrian

spaces and footpaths.

- Laws and regulations need to be updated to conform to the changing public safety demands. Roles and responsibilities of various transport regulating agencies need clarity and coordination.
- Motorization, widening of roads is encouraging over speeding and providing little safety for the pedestrian or cyclist. Lahore's transport should offer affordable and efficient choice of transport which is integrated and inclusive.
- Enforcement of traffic, parking and land use regulations need to be strengthened. Independent commissions for enforcing regulations, enforce penalties for violators need to be initiated.

RECOMMENDATIONS

Institutional Directions

Consolidation & Coordination:

- Transport related functions such as planning, engineering, maintenance, licensing, registration, regulation should be consolidated into one single efficient authority and roles of departments and agencies need to be defined to avoid overlapping of tasks and activities.

Capacity Building:

- Urban transport planning capacity should be enhanced by adding transport planning related courses at the university level, introducing transport engineering curriculum, and by hiring professionals who can monitor and analyze land use and transport development. Furthermore, the institutions need to develop standards, guidelines and codes which suit the motorized and non-motorized traffic of Lahore.

Policies for Cars:

- Car users should be made to pay full environmental and economic costs of their travel and appropriate pollution and congestion pricing needs to be developed, along with proper parking policy.

Social Directions

Educating Commuters:

- Program of educating commuters to produce civic sense, national discipline, road sense and awareness to general public about traffic rules and regulations is important to instill a sense of responsibility.

Safety & Security:

- Focus should be on safety and security of the citizens, traffic calming, permissible traffic speeds, shared spaces need to be considered.

Inclusive Mobility:

- Transport planning should be done with a gender perspective and focus on inclusive mobility with issues of marginalized groups (disabled, urban poor, elderly, children) being properly addressed.

Economic Directions

Low Cost Initiatives:

- Investment should focus on low cost and economically efficient, combination of initiatives which shift focus from road development to public transport.

Affordable Transport & Subsidies:

- Varied transport needs of the different classes needs to be addressed for example people who prefer low-cost and less luxurious transit. There should be subsidies for the poor.

Environmental Directions

Pedestrian and Bicycle Infrastructure:

- Traffic management and enforcement in central Lahore needs immediate attention with focus on pedestrian and bicycle path development which would shift the dependency on motor vehicles to more healthy means of transport which would help to save the valued time and contribute to a greater public good.

Urban Space Renewal:

- Eminent roads need to be uplifted and their related issues need to be addressed. The authorities need to focus on improving the metropolitan image, local tourism and provide better usage of streets.

Urban Heritage Protection:

- Lahore's historic core and architectural gems should be preserved protected, and considered before any traffic or transport planning project or initiative in order to preserve the city's heritage.

Minimize Carbon Emissions:

- Transport institutions should focus on minimizing carbon emissions, air and noise pollution and focus on environment friendly means of transport. Trees, green spaces should be preserved and visual pollution (billboards) should not dominate the skyline of Lahore.

In short, we recommend a paradigm shift from road widening as the sole solution to transport problems to more people-centric and environment-friendly approaches as noted above. Transport system needs to be business, connectivity and social activities friendly. Lahore requires a public friendly infrastructure, with equity and environmental sustainability as basic criteria for transport engineering, designing and effective planning.

VISION

We envision Lahore as a city which achieves transportation needs in an environmentally conscious, affordable and people friendly manner.

INTRODUCTION

Lahore has expanded and is built on existing base of cultural heritage to create a thriving economy which is driven by business, trade, education and entertainment industry. Population wise it is the second largest city (10 million estimated) of the country. Lahore, with its rich history; proud, splendid architectural heritage and thriving cultural life attracts people from across the country for its historic monuments, bustling markets, academic institutions, recreational spaces, shopping and food. Lahore offers a high quality of life, with abundant parks, libraries, rich cultural life, sport and business facilities. Lahore has approximately 25 green and open spaces comprising of parks and gardens, amusement parks, botanical gardens and zoological gardens. Moreover, it has 15 operational libraries.

The City District of Lahore is divided into eleven towns. (See Annex I) Furthermore each town is subdivided into union councils; there are about 151 union councils in Lahore. Lahore can also be divided into “cantonment” and “civilian” Lahore.

Lahore Cantonment is controlled by the Cantonment Board: there are two Cantonments in Lahore: Mian Mir and Walton. Also D.H.A is situated in the Cantonment and is run by Defence Housing Authority which is a subdivision of Lahore Cantonment. Civilian Lahore is governed by City District Government and Government of the Punjab. The civilian part of Lahore can be further divided into housing schemes, such as Bahria town, model town and so on.

The ways cities are planned and built determine how large population of people would live there in distant future. Hence the task for citizens trying to create such environments on which the future of their many generations is dependent, need to focus on how the

city will function efficiently. Making good cities also mean creating an environment where majority of the people will be as happy as possible. Best of cities can be cited as being protective, inclusive, beautiful and stimulating places.

Transportation systems should be developed to help achieve societal goals and transport planning and projects can both support and catalyze change. Bad planning decisions restrict and ultimately effect behaviors and lifestyles of people. The importance of amenities such as public spaces, sidewalks, tree-lined paths, pedestrian facilities, bicycle lanes parks, and vibrant streets etc cannot be measured but are important for the subjective wellbeing of the citizens.

Lahore’s Transportation system needs to be developed according to the principles of good cities and should be developed for moving tourists, students, business owners, traders and citizens seamlessly within and outside the city. Reliable and efficient public transportation should provide access to major sites within the city’s core such as major universities, markets etc. Water transportation system on canal can be developed for both recreation and conveyance.

SITUATION: EXPERIENCING LAHORE

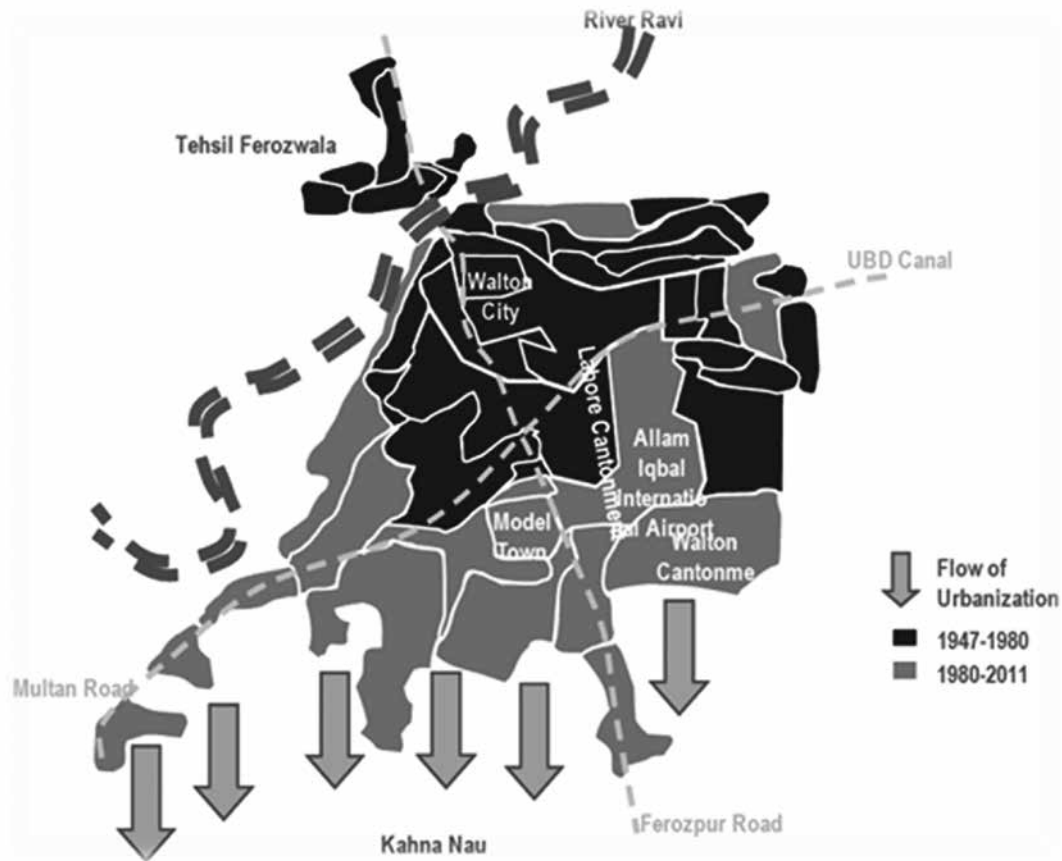
A poorly managed city, is where roads and haphazard vehicles seem to be everywhere, a city where shops, schools and parks are far apart and require a vehicle to reach them, where roads act as barriers between communities, where traffic dominates the streets making them difficult to cross, where walking and cycling are unsafe and unpleasant, where public transport is infrequent and hard to get, where air pollution is visible, pungent health hazard and where honking and road rage are the main forms of social exchange.

Sustran, 2004

The prevailing transport situation in Lahore clearly shows that it is in dire need of change and radical improvement. Several factors have aggravated the transportation problems within the city. This includes lack of co-ordination, gaps in role of agencies, regulatory functions, inefficient land utilization, ill-conceived adoption of motorization, and absence of coherent transport policy. These points are briefly discussed below:

- a. There is a lack of coordination amongst the various government agencies responsible for Lahore's transport planning. (See Annex II)
- b. There are serious gaps in these agencies role and responsibilities. They suffer from duplication of roles, outdated transport-related rules and regulations, and lack of central data repository.
- c. The regulatory functions and transport planning are tied to operation. This raises concerns about capacity and skills. Institutions managing transport are understaffed and insufficiently trained. Resultantly, the senior executives and politician are called upon to take decisions. Invariably they make decisions on political expediency rather than seeking professional input from the experts.
- d. There is inefficient land utilization which can be divided into three zones, central, intermediate and outer zone. The central area comprises mainly of poor and middle class residential use with a mix of concentrated commercial and business ventures. The intermediate area which is largely planned is basically an uncontrolled mix of housing for upper and middle income groups and provides related activities and services such as education, recreation, utilities etc, However, there is a considerable dependence on the central zone for job opportunities. The outer most area represents characteristics of urban sprawl, providing low density housing to the rich. The growth has brought demand to travel from the periphery to the central areas.¹
- e. Ill conceived adoption of motorization policy has increased dependency on cars making pedestrian and bicycling environment extremely difficult especially on arterial roads of Lahore. Consequently, the city suffers from a myriad of problems: to name a few, heavy congestion during peak hours, illegal encroachments, lack of parking facilities, sidewalks, absence of pedestrian zones, slow traffic, road accidents, and environmental degradation.²

Figure 1: Lahore Urbanization (1947-2011)

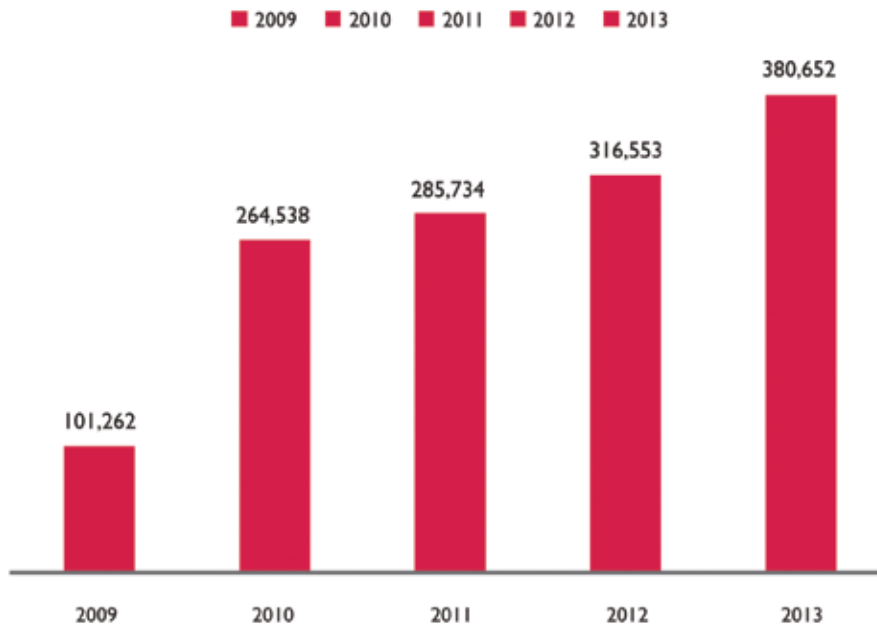


Source: NESPAK, *Integrated Master Plan for Lahore, 2021* (Lahore: Nespak, 2004)

f. Finally, the Punjab government has taken several initiatives to address the traffic issues but has mostly focused on road widening strategies and infrastructure development, i.e. constructing flyover and underpasses. However, absence of a coherent transport policy continues to aggravate problems of congestion which constrain growth and hamper this city's competitiveness. The transport network has not been adequately

maintained or developed keeping all road users in mind. This is further exacerbated by the lack of traffic management and regulation.

Figure 2: Growth in Vehicle Population



Source: Also see Annex III for a detailed list of registered vehicles

Although the city offers a variety of urban transport services ranging from large sized buses, wagons, mini-buses, motorbikes, rickshaws,³ qingqis⁴ and a number of cabs but poor management and inadequate regulation has given birth to equally incompetent and ill mannered private sector in the city's transport system.

This raises several troubling questions: does the city have a transport planning system which provides optimal benefits for its potentialities? What needs to be done to attract and retain qualified and creative people who are crucial resource for economic

development? How to develop a reliable and efficient transportation system that would provide access to major sites within the city's core such as major universities, business center and cultural sites?

Thus, in order to reconstitute, revive and showcase its cultural heritage, educational landscape, business potential and trade friendliness, it becomes imperative that the transport system should be reorganized within the city of Lahore. This implies constructing a reliable and affordable transport system that helps moving tourists, students, business owners, traders and citizens seamlessly within and outside the city.

METHODOLOGY

Some significant features of study design are as follows:

Basic literature review was carried out and the focus was on existing transport planning issues. Various transport planning reports, documents, studies conducted (See Annex IV) and newspaper articles were reviewed to attain basic knowledge of previous studies conducted and their outcomes. An analysis of the statistics available on transport in Lahore was conducted and important statistics were highlighted.

Numerous informants were selected from the list of agencies for in-depth interviews and interview questions were designed for selected officials, women etc. Several meetings with the officials of Transport Department, Lahore Transport Company, Traffic

Engineering and Planning Agency, and Punjab Metro Bus Authority were conducted to ascertain the documents and reports. Discussions regarding previous proposals and existing policies and their status were also undertaken. Key agencies and departments which are responsible for transport planning projects and decisions were reviewed and their interactions with each other were examined. Few government initiatives and schemes, both successful and failed ones were evaluated, along with some official views on transportation and future expected issues that Lahore might confront along with some recommendations.

Proposed projects and policies were assessed and maps displaying existing transport deprived areas, bus routes, bus stops were also collected.

List of the People Interviewed

No.	Name of Key Informer	Name of Key Informer
1	Haneef Khan	Lahore Transport Company
2	Transport Official	University of Engineering and Technology, Lahore
3	Mr Syed Murtaza Asghar Bukhari Dr. Waseem Akram	Transport Planning Unit
4	3 Officials	Punjab Metro Bus Authority
5	Mr. Saif ur Rahman	Traffic Engineering Planning Agency
6	Managing Director	Lahore Parking Company
7	Chief Traffic Officer	City Traffic Police Office
8	Mr. Mazhar Iqbal	Transport Consultant

DIRECTIONS FOR LAHORE

*A hundred years after we are gone and forgotten, those who never heard of us will
be living with the results of our actions*

Oliver Wendell Holmes

Over the past few decades the policy makers have opted to pursue infrastructural development widening roads, constructing highways, underpasses and flyovers to regulate traffic flows and transportation in and around the city. The question is that how have these initiatives solved the transportation problems identified above? As a matter of fact, the actual objectives of introducing these development projects have not truly been achieved. It is therefore important that we envision a sustainable transport system which starts with barrier free, pedestrian and street environment and then goes on to deal with public transport building and infrastructure. A sustainable transport⁵ planning system can be judged against at least five benchmarks:

- a. It should provide solutions to environmental challenges faced by the society
- b. It should act as a catalyst to the economy
- c. It should be able to contribute to the well-being of citizens
- d. It should improve quality of their life quality of life
- e. It should be able to deliver and deliver social justice and be respectful to human dignity.

This research clearly indicates that the current path on which Lahore has embarked upon is unsustainable and needs corrective mechanisms to avoid traffic jams

and increasing environmental damage. Motorization needs immediate regulation and reduction to curb traffic jams and air pollution. Transport system needs to be designed and operated to provide safety and health for its citizens and also enhance quality of life and improve livability.

This can be done if resources are dedicated to funding public transport projects, developing bicycle lanes, pedestrian spaces, footpaths and thriving public spaces.

Laws and regulations need to be updated to conform to the changing public safety demands. Roles and responsibilities of various transport regulating agencies need clarity and coordination.

Motorization and widening of roads encourages over speeding and provide little safety for the pedestrians and cyclists. Lahore's transport should offer affordable and efficient choice of transport which is integrated and inclusive: which caters to needs of women, elderly, children, urban poor and disabled. Enforcement of traffic, parking and land use regulations needs strengthening. Independent commissions for enforcing regulations, enforce penalties for violators need to be initiated.

STEPS FOR ACHIEVING THE VISION

If we're going to talk about transport, I would say that the great city is not the one that has highways, but one where a child on a tricycle or bicycle can go safely everywhere.

Enrique Penalosa

5.1. FRAMEWORK FOR INSTITUTIONAL RESTRUCTURING

Planning should Facilitate Institutional Coordination

There is a growing need for institutional harmony. A unified, consolidated and independent transport institution for entire city is required with sound mechanisms for integration and coordination with other federal provincial and local government department's agencies and authorities. Our existing agencies suffer from lack of communication and pointless replication of effort. The agencies work in isolation, for example, if transport department of Government of the Punjab is developing a transport plan, TEPA is not taken on board before embarking on the future plan.

The institutional setup should be such that it facilitates coordination amongst different jurisdictions, sectors, and agencies, by eliminating gaps, overlaps and duplication of activities.

The transport institutions should be admirably competent, well organized and able to determine proper division of responsibility and, establish an efficient framework for joint planning, sharing relevant information, policy agreements, and

program collaboration.

In order to ensure interdepartmental harmony, a single tier metropolitan authority can be created, not only for transport but its associated functions such as land use planning and control. Or a two-tier government structure can be introduced with transport powers, planning and strategy formulation assigned to metropolitan level and less strategic functions such as parking control at district level.

A third option could be a less radical arrangement by establishing a joint committee of independent authorities, where the participants can remain financially autonomous and decide allocation costs amongst themselves.⁶

There is a need to depersonalize the institutions and control the independent bodies such as DHA, as LDA and DHA cannot coexist in harmony. DHA needs to fall under the transport planning sphere of the government for effective transport polices and their implementation.

Establishment of Central Data Repository & Official Websites

Establishment of central data repository for traffic, accidents, zoning, land use and GIS would help

develop planning, monitoring and evaluation mechanisms for infrastructure and service delivery. Such an establishment would facilitate transport institutions and agencies in conducting further transport studies, access relevant data and ensure pragmatic implementation of projects.⁷

All data, project information, traffic counts and relevant statistics should be on official websites of the departments for sharing with general public and relevant authorities. The electronic forms and downloadable documents should be made available on official websites with anonymous complaint and suggestion system as well. Many departments have no official websites (See Annex V) considering the work they have been doing, TEPA has no official website, while it should have a proper website displaying upcoming projects, project budget details, completed projects and upcoming planned projects.

Strengthen Institutions and Assist in Capacity Building

Our transport planning institutions require in service training and recruitment from private sector. This will help in terms of strengthening professional and organizational capacity of related transport institutions, providing scholarships and training programs for career development would further enhance their capabilities. The agencies need to harmonize different actions, improve their efficiency and have a seamless approach for service delivery. The institutions should be responsive to the needs of the citizens and have reflexive laws and regulations which can be updated and changed by agencies.

For instance, TEPA, its functions are well conceived and comprehensive (Annex VI) but regrettably much of Lahore's traffic, institutional disorder and transport issues are a direct consequence of uncoordinated, haphazard decision making for road and traffic management. Road development has become its key function and TEPA pays less attention to other functions which it was originally assigned.⁸

Few studies recommend that a new traffic agency with power and resources to concentrate on traffic

planning, engineering and public space management is very important. Hence, TEPA can either be abolished or merged with all its functions transferred to a new agency except for tendering and supervision of road construction.⁹

Develop Standards

Our transport institutions and relevant agencies need to develop uniform procedures, guidelines, and codes for planning which would be effective tools for an integrated transport planning and design implementation.

Ensure Master Plans & Transport Studies are Implemented

Over the last two decades several transport studies were conducted on the transport system of Lahore. (See Annex VII) These studies were mostly funded by local budget plans or international loans. Most of the studies initiated were very comprehensive and offered really good recommendations but unfortunately very few were officially selected and executed.

The master plans are developed over years of study and sanctioned by the government and millions of rupees are spent on research. Most of the time they are not implemented as when the government changes, the projects of previous government are discarded therefore there should be a regulation to ensure that master plans are implemented and development is not done on whims of the government representatives.

It is absolutely imperative that rules and regulations should be put in place for effective implementation of those studies and plans. The transport plans should not be for next few years but for 50-100 years, the plans should have both short-term and long-term goals and objectives.

Reduce Corruption in Institutions

Corruption has become the norm in our society, from the lowest level to the highest, our society thrives on corruption. One good example to cite would be the driving licensing department; many people get their

driving licenses delivered to their doorstep without ever going for a driving test. Everyone knows a license can be easily purchased without doing anything. Having no rules is the new rule.

Lahore needs to aim for corruption free institution & systems; without fear of law, transport policies cannot be implemented. People need to be trained and concept of fear, crime and punishment needs to be introduced so citizens, officials and institutions can be taught to respect the law.

Corruption thrives on secrecy. If transparency is enhanced and most of the information and details are made public, it will become difficult to conceal corruption.

Number and capacity of qualified officials can be increased; appropriate personnel can be appointed and trained accordingly. Anti-corruption training can be given to personnel. Corruption can be greatly minimized by appointing staff of high integrity and ability. We need to encourage reporting of corruption, this can also be done by publicity campaigns on TV and press.

5.2. FRAMEWORK FOR URBAN MANAGEMENT & ENFORCEMENT

Planning should ensure Effective Integration of Transport and Land Use

A short walk trip is the highest achievement of successful urban transport planning. Transport system in Lahore needs to be designed for effective integration of transport and land use. Local bodies should be facilitated to prepare, approve and regularly update land use plans for the city and focus on restructuring the urban space. This includes overall approach towards urban density, promotion of compact and dense neighborhoods with mixed land use and good public transport provision.

Goods Traffic

Urban transport planning usually neglects transport of goods and mainly focuses on passenger transport.

Goods transport usually employs the urban poor of the city.¹⁰

Ban on trucks during the daytime is not enough, there should be provisions for cart pushers which still carry goods around Lahore, and carry goods in narrow lanes and alleys where trucks cannot go, without polluting or using expansive fuel. These older sustainable forms of transport should not be abandoned.

Transport Demand Management

We need to accept that in the future, it would become difficult to provide enough road capacity to satisfy the future demand and so it becomes necessary to find ways to make sure that demand is restrained to match the capacity that can be provided.¹¹ Transport demand management policies aim to: traffic calming in residential areas, auto-restrict zone in the city centre,¹² area licensing schemes (ALS),¹³ vehicle ownership restraint,¹⁴ road pricing,¹⁵ congestion pricing and peak period dispersion¹⁶ (staggered work hours).

Planning should ensure Efficient Parking Management

Lahore has a network of 2000 km roads and 20% of this length is occupied by road side parking. There are only three parking plazas¹⁷ by TEPA with a capacity of 750 vehicles. There is dire need of dedicated parking facilities for automobile users. According to CDGL there are about 367 parking lots and about 160 un-operational ones, billions of rupees can be earned annually through auctioning those parking lots and currently only a fraction of this potential is being earned.

While CDGL provides small scale parking stands along 32 corridors, these are ill planned and they encroach the service roads, main streets and commercial centers. No parking design standards or guidelines exist. There is no existent parking policy¹⁸ for overall managing parking and providing such facilities.

The automobile elite of Lahore feels that city offers free and abundant parking, this realm needs to be addressed by parking policy where the need to park is catered as a service which the city provides at a specific price.

Lahore city is in dire need of a proper parking plan and policy along with improved parking facilities and operation. The Lahore Parking Company (LePark) needs to overcome the problems of unions (students, lawyers, rickshaws) and undertake construction and day-to-day management. The LPC needs to take responsibility for parking design, operation and should be able to integrate parking facilities into communities, improve their quality of service, support parking management, regulate parking use and address parking problems of the city.

Revitalization of Urban Railway

Railway is a cheaper and safer mode of transport for passengers and can also contribute to the economy. The railway sector is suffering from heavy losses due to corruption, poor maintenance and mismanagement. Privatization might be a viable solution, it can help to improve the service quality and expansion of railways as the government has not been able to invest in the past.

Lessons can be learned from China as they have been able to make remarkable progress in railway industry and have made it into a profitable organization. India has also showed remarkable progress in the railway sector and Delhi railway system has won the admiration for its management and engineering. Pakistan can also benefit enormously from its neighbors who have become rapidly growing giant economies, as Pakistan is blessed with coal reserves, a resource which can be utilized quite easily.

In Lahore, at present there are about nine stations (See Annex VIII), these stations can be revitalized, restructured and revamped for intra-city commuting, which can be integrated with other public transport modes operating in the city. Courses and training programs can be provided for students and professionals studying or working for railways.

Public Transport Policy for Rickshaws and Motorbikes

Lahore needs to phase out unruly (qinqqis) and dangerous modes (motorbikes) of transport and focus more on collective modes. (Public transport/Buses) Lahore should develop efficient polices for restricting such modes which are hazardous to the environment and pose a threat to safety of the citizens.

Lack of restriction on the increasing number of rickshaws¹⁹ in Lahore suggests the evident lack of a transport policy for the city. EPA suggests that Lahore requires only 30,000 rickshaws based on the needs of the population. However, there are about 65,000-80,000 rickshaws plying in the city operating as affordable taxis. This oversupply of rickshaws shows the need to study and regulate the number of public service vehicles in the district. An efficient public transport system requires a concrete integrated policy with the current public transport system, this comprises of limiting the number according to the needs of the population and establishment of queue stands at various junctions with publicized zonal fares.²⁰

Motorcycle share in Lahore is 56%,²¹ as they cost between Rs. 15,000-45,000. We need an appropriate and equitable policy, with gradual restraint on motorbikes. Motorbikes should be restricted within academic zones and charged for parking. Physically segregated lanes should be provided for motorcycles on all major arteries of Lahore.

5.3. FRAMEWORK FOR ECONOMIC STABILITY

Transport Planning and Projects should Consider Affordability

Affordability is a very important transport planning issue,²² and needs to be given preference over grandiose transport projects and congestion reduction strategies which merely focus on faster modes of travel than on slower modes such as road development, road widening schemes, mega projects, flyovers, underpasses. Such planning decisions

stimulate sprawl and create automobile dependent communities which are hostile to collective (public transport) and active (walking & cycling) modes of transportation.

The most sustainable, people-centric and equitable transport policies are low-cost. Hence, transport planners and bureaucrats need to get over this flyover frenzy which has affected the livability of Lahore. Affordable modes should be supported such as cycling; walking and greater emphasis should be on providing public transport to the masses. Street policies such as “complete streets”²³ can be applied which ensure that roadways accommodate diverse modes, uses, and users.

Prioritized Resource Allocation & Focus on Planning for Masses

There are about 350,000 cars, 850,000 motorbikes,²⁴ 518 mini buses, 475 mini wagons and 1,053 buses for about 200,000 daily commuters in the city, while 40% of citizens do not have access to automobiles and walk to work. Car ownership has been on the rise at the rate of 12.2% per annum. Due to lack of public transport system people resort to private vehicles. Corporate sector has exasperated the problem by offering easy car leasing; anyone with few months of job experience can easily acquire a car.

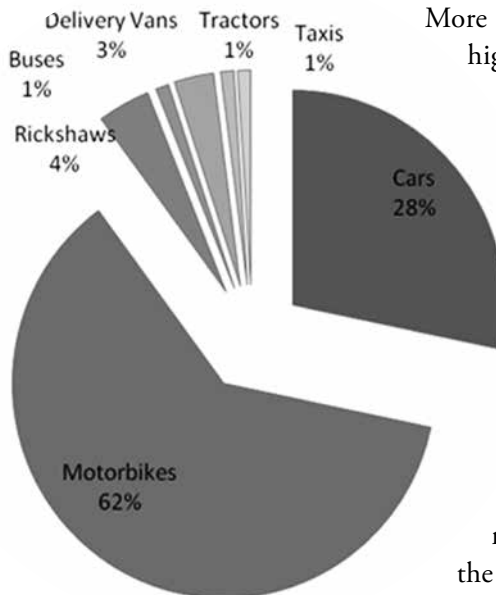
In order to solve the traffic and congestion problem caused by private vehicles many underpasses and overpasses have been built especially over and under the canal. In the past fifteen years about Rs. 6.3 billion has been spent on road infrastructure along the canal road alone and billions²⁵ more spent on other road projects in Lahore. But it has not improved the traffic flow in the city or improved

the economy nor has it enhanced the environment. This money could have been spent elsewhere, or on enhancing the existing public transport (collective mode). Budget is a political statement, it reflects priorities and approximately 60% is allocated to road network development. The cost of a single overpass is 3% of the development budget of the total province.

Examining the Punjab Metro bus Project (Annex IX) the project cost was about Rs. 29.8 billion with a fleet of 45-65 buses for 27 km track, one stop per km. In terms of buses it means Rs. 662.2 million per bus. The fixed cost was Rs. 1.103 billion per km or Rs.110 lakh per foot of track. For the newly announced expansion project from Jain Mandir to railway station, a batch of 800 buses for the entire city equals to the proposed cost of the expansion project.²⁶

The prevailing trend of misallocation of sources which benefits a minority elite needs to be dealt with immediately and should be managed by a combination of investment in public transport, congestion charges, soft traffic management, rationalization of parking fees, enforcement and implementation of traffic regulations.

Affordable and Integrated²⁷ Urban Public Transport System & Mass Transit System



More emphasis should be laid on high capacity buses rather than multitude of small vehicles and development of integrated bus system with proper fare, information, physical and network integration and management is required.²⁸

Mass transit corridors needs to be identified beforehand and land reserved for them and these need to be compatible with the vision of future directions of urban expansion. A bus way can be

installed first and later, a rail service when it becomes affordable and justified.

In the Punjab Metro Bus Project there are two flaws: it is designed for long-run passengers and, it is a stand-alone service which is not integrated with the rest of the city.

Lahore needs to plan for the masses and move towards providing trunk public transport system RMTS (Rapid mass transit system, LRT-Light rail transit) and BRT (Bus rapid transit) with conventional services. This is strongly recommended as Lahore qualifies as a city which requires a mass transit system.²⁹

Abolish Transit Monopolies

Bus route monopolies need to be eliminated, as they do not really benefit the citizens at all, they only help the operating company. While planning for transport, interests of the masses/public should be given utmost importance. Currently there are 53 bus routes out of which only 30 are operational; no new routes have been designed.

Ferozepur road is a golden route, yet only one or two companies are operating on that route, most of the bus companies and wagons were banned. This clearly indicates that masses are not benefitting from it. As a matter of fact, people simply need public transport, it is not in their best interest if only one or two bus companies operate on a specific route, the commuters prefer availability and variety of modes, depriving them of this right due to transit monopoly is unwarranted. LTC³⁰ has a total fleet of 650 buses while Metro Bus Authority has a fleet of 45 buses. This number is very low. There should be more buses on all the routes of different companies so the gap can be filled.

Monopolies on bus routes should be discouraged and multiple bus companies should be allowed to operate on routes as this encourages competition, breaks up inefficient transit monopolies, and improves service delivery.

5.4. FRAMEWORK FOR PUBLIC SAFETY, ACCESS & PROTECTION

Planning should aim to Reduce Auto-Centric Landscape and focus on Accessibility Planning

Accessibility planning for Lahore would require integrated package of policies which offer alternatives to private vehicles and restrains inappropriate use of cars and reduce the need to travel by effective urban planning, bringing more destinations within easy reach by foot, cycle or public transport. Priority needs to be given to those strategies which contribute most to economic and social wellbeing of Lahore.

Smart growth should be supported with multi-modal and mixed development which reduces the distances where the citizens can reach their activities and destinations and improve their travel options.

The purpose is to create a combination of various modes of commuting and travelling, which offer alternatives to car travel, and are of a better quality and well integrated.

Efficient Pick and Drop Services

An effective and efficient pick and drop service should be introduced in Lahore. Proper school bus system should be introduced in order to reduce number of cars on roads during peak hours. Factory workers, hospital staffs, colleges and universities should offer collective pick and drop services to reduce congestions. Employers should be encouraged to offer cycling and car-sharing (car-pooling) incentives to their employees. Stores and shops can be encouraged to provide delivery services and reduce the need to travel.

Public Safety and Protection should be Given Preference

Heterogeneous traffic mix is the largest determinant of traffic fatalities. Public safety needs to be taken into consideration when allowing services such as Qingqis,³¹ rickshaws and motorbikes to serve the public. Qingqis are 100 cc bikes with 6-8 people

on each of them and have an unsafe design and a tendency to topple on increased speed. The sole mode of transportation on peripheries is qingqi. Production of qingqis requires regulation and they need to be phased out gradually as livelihoods of millions of people are attached to them. Qingqis can be moved towards smaller cities and towns instead of encouraging them in a city like Lahore.

Facilities for pedestrians and cyclists are non-existent, even though the walk share is 40%, these are the most vulnerable groups and are prone to 50% of the road accidents that take place. Bicycles users feel highly unsafe on the existing traffic mix and transport environment and cars are considered the safest medium. Traffic accident rate is reportedly highest on Ferozepur road, Multan road, GT, Canal bank and Lahore ring road (2011). By reducing vehicle speeds, traffic calming reduces the number of accidents and their severity.

Making Lahore a safe city needs to be prime responsibility of governing institutions and private sector. Safety audit system and legislations for operation of road vehicles, victim's compensation, permissible traffic speeds, pedestrians on road, and accidents need to be considered for ensuring safety of citizens.

Urban Heritage Protection

The central and historically significant area of Lahore is vulnerable to the impacts of traffic and current planning projects. Entire historic urban areas need to be preserved and protected by combination of traffic calming, bicycle access, enhancement of public transport and pedestrianization. Lahore tourism routes³² (Walled city, Wagah, Jahangir Tomb, Mall Road) need to be developed and preserved with provision of basic amenities, security of travels and parking facilities must be ensured

Urban heritage needs to be protected and preserved for future generations, local and global tourism and enhancing the metropolitan image of Lahore.

Public Awareness and Education

Awareness programs work as effective instruments to educate and change behavior of road users such as pedestrians, car owners, cyclists. Conducting community education programs in educational institutions, transport institutions, government agencies on print electronic media and focusing on drivers training, road safety, women and children mobility, pedestrian mobility, affordability, and accessibility and user safety would help to change commuter behavior and increase awareness.

Planning and government officials should receive uniform and legitimized education and training in order to augment their capabilities. The officials should be provided with resources and skills which can enable them to deal with complex interrelated issues. Traffic wardens should be trained to assist the elderly and cope up with emergencies.

Programs to educate designers and planners regarding universal design into planning should be promoted.

5.5. FRAMEWORK FOR SOCIAL JUSTICE

Transport Planning should Consider Gender Perspective

The most neglected part of transport planning is the social aspect; our exiting transport system is not adequately designed to cater for needs of women, children elderly and disabled, their needs are poorly met by current transport policy and provision.³³ Women, children, disabled and elderly are woefully under-represented and that is a contributing factor for inadequate transportation system³⁴.

Hence Lahore's transportation system is designed from the perspective of male dominated society disregarding the needs of females and underclass. In many cultures women's mobility is socially restricted, and efforts are faced with resistance if women are directly empowered. Sexual harassment on public transport and streets is very common.³⁵ The policies are designed as such that women have been excluded altogether, even though there is no ban on riding

motorbikes or bicycles, yet women breaking the cultural shackles become the focus of attention.³⁶ Campaigns in schools, colleges, universities and workplaces should promote awareness and encourage women to become independent and use various modes of transport which the city offers. Planning with a gender perspective and focus on inclusive mobility, along with other disadvantaged groups and their issues need to be incorporated in planning and before any initiative or project. Specific changes need to be incorporated for people with disabilities, which in turn would also help children, the frail and elderly.

Inclusive Mobility and Universal Design

Facilities need to be designed so that they can accommodate the widest range of potential users. For example people with visual impairments, (disabilities) and special needs. This concept is designed for disabled but can benefit all. For example wider sidewalks, curb cuts and ramps, buses with low floors can improve convenience for different commuters not only wheelchair users.

Motorization curtails children's independent mobility and for low income children access to school and public transport is a vital issue, most of these children walk to school, and our planning system needs to ensure traffic free or traffic calming public spaces especially near schools.³⁷ Safe routes campaigns can be established which bring parents, children, and educators together in order to find ways for encouraging students to cycle and walk to school.³⁸

Planning should Provide Facilities for Cyclists

In Lahore, less than 15 percent of the population has access to a private automobile,³⁹ the remaining population either walks or cycles and one can get around most of the places on a bicycle in about 45 minutes. Increasing opportunities for cycling as an optional mode of travel, framework for rights and responsibilities of cyclists needs to be established along with development of planning guidelines and standards for provision of cyclists⁴⁰ in road infrastructure design, and their promotion should be

put in place.

The planning should assist in transforming Lahore into a bicycle friendly city, with cycle friendly infrastructure installed at various locations, where employees and children can cycle to school and their workplaces. Some parts of Lahore can be made cycle friendly, inner and central areas with infrastructure such as separated lanes and road improvements, safety, convenience and attractiveness of cycling might tap Lahore's significant latent cycling potential. Action is needed across wide range of agencies which deal with transport, health, land use planning, education, environment and law enforcement.⁴¹

Pedestrian-Oriented Streetscape in Lahore

Instead of an auto-centric landscape, Lahore should have a pedestrian-oriented one, where walking is encouraged for future generations. Presently, facilities for pedestrians are non-existent, even though the walk share is 40%. These are the most vulnerable groups and are prone to most of the road accidents that take place.

People who are economically and socially disadvantaged suffer the most due to policies which focus on economic efficiency and automobile focused priorities. Needs of the invisible poor are neglected as walking itself has been ignored and is not even considered a part of transport at all.⁴²

Developing high mobility, pedestrian and public transport streets in Lahore would immensely improve the city's urban fabric which has been dominated by long winding roads. A fundamental shift in transport priorities is required for a people-centric equitable transport strategy for Lahore.

This vulnerable mode deserves highest encouragement and consideration. Each union council needs to have a pedestrian plan.⁴³

Shared space⁴⁴ and improved streetscape can coincide with improved priority for public transport vehicles. Creating pedestrian streets/districts, traffic calming zones,⁴⁵ greenway paths instead of 4-lane highways,

Zigzag streets⁴⁶ would help to shift from auto-dominated development which creates environmental problems and erodes vitality of the city.

Overcoming Social Stigma

There is a tendency to consider a specific mode of transportation as being for the poor, hence in most cities cycling, walking and using public transport is considered beneath the dignity of middle income groups. Many middle class people consider walking, cycling and using public transport as embarrassing. Such stigmas influence decision makers to completely ignore certain modes.⁴⁷ In order to devise pro-poor policies these modes should be promoted, given priority and people should be encouraged by promoting group activities such as cycling days, walk-shops instead of workshops (where groups go out for walks and explore the city), employees and staff cycle and walk to work. Such initiatives can help to reduce the low social status of such modes and give them priority in public policy and increase overall subjective well being of the citizens.

Efficient Planning should be able to Provide Proper Sidewalks and Street-Scaping

The transport planning institutions need to work towards having fewer roads and more streets, well maintained and properly designed public friendly infrastructure and sidewalks for pedestrians. The urban poor are usually dependent on streets and public places for commuting. Many people have taken initiatives for preserving their neighborhood streets and not letting them being used as roads.⁴⁸ Initiatives are required to have more streets and fewer roads. Sidewalks need to be well maintained as high as a standard as roads. Instead of narrowing footpaths, road widening strategies should come to an end.

Planning for pedestrians need to be realistic as walking can be very tiresome, especially during the summer season. Shade infrastructure and resting points should be installed in high pedestrian zones with proper lighting and signage. Incorporate features such as benches, public art and design

features which attract people of diverse income and cultural backgrounds.

Curbs should not be too high and sidewalks must have adequate clearance from obstacles such as rubbish cans, street traders, parked cycles, carious poles and signs need to be taken care of.

Signal-free Corridors versus Pedestrian Safety

Signal free corridors pose a serious threat to the safety of pedestrians and are being implemented keeping in mind the automobile users only. Such corridors lead to increase in average speed of vehicles and cause severe accidents and casualties. Signal free corridors can be considered a transition triggered threat which did not exist in the city before, they increase the time of vehicles on the road as such corridors have very few turns and cuts. Hence, vehicles spend more time on the road, becoming major cause of congestion. Pedestrian bridges on corridors are also not for the ease of the pedestrians and as they require more effort and distance, hence pedestrian bridges can be termed as traffic facilities not pedestrian facilities. Such initiatives need to be carefully planned and addressed before the road is transformed into a signal free zone as risk to life of human beings is higher. Ferozepur Road and Canal side do not consider pedestrian safety at all, pedestrians are seen risking their lives while trying to cross the road and many are seen dodging or freezing on spot while high speed cars pass them.

Managing Street Activities and Encroachments

Different street activities in Lahore include trades and crafts,⁴⁹ selling, marketing, begging, entertainment and in some cases living. Although these activities are seen as plight to the city, since they impede traffic flow; but they simply reveal the state of Lahore's urban economy. The economic life of the city needs to be preserved. Space needs to be provided where these trading activities would not hinder pedestrian flow, and overambitious regulation⁵⁰ should be avoided. Adequately designated place needs to be acknowledged where trading, begging is allowed and where it's not allowed.

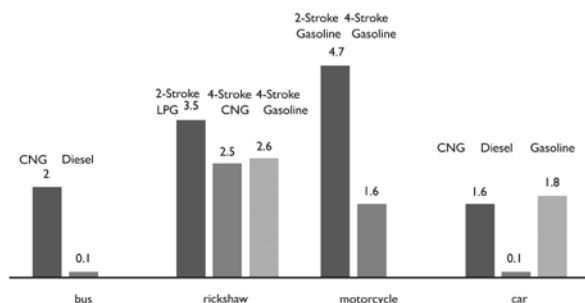
5.6. FRAMEWORK FOR ENVIRONMENTAL PROTECTION

Planning should aim to Reduce Environmental Degradation

The city needs to be designed for people not for machines, focus on public welfare and overall greater good. Policy makers should concentrate to minimize its carbon emissions, improve energy efficiency and provide incentives for non-motorized transport and have policies which focus on greater good.

Motor vehicles are responsible for 70% of air pollution in cities and environmental pollution is a rapidly growing threat in Lahore with high energy use, accelerated vehicular use, industrial activity and noise pollution from rickshaws are the major causes of deterioration of ambient air quality as well as overall climate.

The ambient air quality data shows that carbon monoxide level in Lahore exceeds World Health Organization's recommended levels. Figure 1.1 above shows information carbon monoxide emissions in Lahore.⁵¹



According to Environmental Protection Department, Punjab, two fixed air quality monitoring units⁵² have been installed in Lahore. The units examine pollutants like Sulphur dioxide, Nitrogen dioxide, Carbon mono oxide which lead to respiratory infections such as lung cancer, asthma, heart diseases, and chronic respiratory infections. According to officials, the pollutant levels on the Mall Road are double than the Township area.

Possible targets for minimizing the harmful effects of greenhouse gas emissions can be through energy efficiency, supporting nanotechnology, reducing the usage of nonrenewable transport fuels and providing incentives for non-motorized transportation.

Green Space, Trees and Urban Design Considerations

Transport planning in Lahore should be done with the vision of protecting its green heritage, ensure increased plantation of trees, manage its parks efficiently, have fewer billboards and focus on creating more public spaces where people get to interact with each other and the environment.

PHA is responsible for landscaping and beautification of Lahore. However, hundreds of parks are neglected in different parts of the city. The authority focuses on 600 parks while neglecting 400, which are situated in different localities of the city and are in an abysmal state.⁵³ In addition, it manages, controls and regulates placement of billboard advertisement. The billboards interfere with visibility, affect traffic safety and create visual pollution. Globally, billboards are seen as a nuisance and blight upon the landscape (MVA, 2007) and usually shifted to highways where there is little distraction. In Lahore, billboards should be confined to pedestrian zones.

Approximately 560-650 trees were chopped down for the canal widening project, initially the number rose to 13,000. Trees need to be preserved as they uplift the urban environment and provide shade.

The quality of Lahore's public realm should be enhanced by creating public plazas where people naturally meet, pocket parks, local shops, bus shelters, plazas.

CONCLUSION: A CALL TO ACTION

Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world.

Joel A. Barker

Visions are inspired, creative, expressive narratives designed to help the city to step outside its present constraints and openly explore where it wants to see itself in the future. The vision and recommendations presented in the document are not a strategy, rather, its major purpose is to paint an alternative inspiring “picture” of what Lahore could look and feel like in year 2035. This picture aims to serve as a guiding star which will continue to inspire fresh insights into both, what is necessary and what is possible for Lahore city. The vision aims to align our actions, decisions, strategies, policies and shape our future for the better, in the years to come.

Transport planning vision for Lahore, 2035 was based on many discussions, professional guidance, ideas, expert opinions and contributions from wide range of stakeholders: policy makers, transport planning experts, planners, architects, researches and citizens in general.

The initial process has ended but it is important to note that the vision itself will inevitably continue to evolve. In the years ahead, Lahore will identify additional opportunities to engage with similar stakeholder discussions, for clarifying and refining the vision 2035, it can then be used as a stepping stone to improve and move further as our opportunities

and resources can expand in ways that we cannot anticipate as yet.

A good transport system in essence means greater connectivity among people. The ease, affordability and reliability of transport, has a positive impact on trade, land use, business and tourism. It facilitates in understanding the history, culture, ethos, socio-political dynamics and commercial resilience of a city. The transport system of a city is the pivot around which its socio-economic life evolves and revolves. It also reflects the city dwellers sensitivity about the city’s ecology, sustainability and capacity to absorb the challenges and opportunities that modernity and globalization offers. In the eyes of some, Lahore has developed, in recent years, one of the most dynamic public transport systems and offers other Pakistani cities a model to follow. But the question is whether this dynamic transport system is sustainable?

To conclude the above discussion, the transport planning authorities need to learn from past failures in urban transit planning which were plagued by untested technology, poor implementation and high costs. Transport planning institutions need to plan and deliver transport solutions keeping in mind the different travel demands of the population. Governance and regulation of transport sector requires attention and improvement strategies.

Transport planning should start from micro-level (street, pedestrian, community, neighborhood) level and then go on to macro-level planning (city/regional-) level. The city requires a pedestrian-friendly footprint, reliable urban mass transit system and safe environment for cyclists and citizens. With the rising fuel costs and diminishing oil supply, the planning institutions needs to promote policy initiatives which require less reliance on oil and cars.

be strengthened for different departments such as traffic management, parking management and land use regulations. Robust penalties should be put in place for traffic rules and regulation violators

The position taken in this study aims to provide a blueprint for the city's transportation system which supports a dynamic vision for Lahore and the strategies aim to curb the existing upward trends

Consider First



Consider last



The transport planning process needs to provide opportunities for cycling, walking and public transport. Increased funding needs to be dedicated to public transport, pedestrian paths, bicycle lanes, and urban railways. Transport enforcement needs to

in urban sprawl, auto-dependence, environment degradation, and make Lahore, a vibrant, thriving city; a place of immense vitality and variety. This is a tall order but the vision that we present is futuristic, sustainable, equitable and people-centric

RECOMMENDATIONS

Key Principals for Achieving the Vision

<p>STEP 1:</p> <p>Framework for Institutional /Restructuring</p>	<ul style="list-style-type: none"> • Planning should facilitate institutional coordination • Establish central data repository & official websites • Strengthen institutions and assist in capacity-building • Develop standards • Ensure master plans & transport studies are implemented • Reduce corruption in institutions
<p>STEP 2:</p> <p>Framework for Urban Management & Enforcement</p>	<ul style="list-style-type: none"> • Planning should ensure effective integration of transport & land use • Goods traffic and older sustainable forms need to be integrated • Transport demand management and policies should be enforced • Planning should ensure efficient parking management, parking policy for city and parking plan • Revitalization of urban railway • Public transport policy for rickshaws and motorbikes
<p>STEP 3:</p> <p>Framework for Economic Stability</p>	<ul style="list-style-type: none"> • Transport planning and projects should consider affordability • Prioritize resource allocation & focus on planning for masses • Affordable and integrated urban transport system & mass transit system • Abolish bus route transit monopolies
<p>STEP 4:</p> <p>Framework for Public Safety, Access & Protection</p>	<ul style="list-style-type: none"> • Planning should aim to reduce auto-centric landscape and focus on accessibility planning • Efficient pick and drop services for, schools, universities, work • Public safety and protection should be given preference • Urban heritage needs to be protected from impacts of traffic and transport planning projects • Public awareness and education should be promoted to make responsible and informed citizens

STEP 5:

**Framework for
Social Justice**

- Transport planning should consider the gender perspective
- Inclusive mobility and universal design for (women, children, elderly, poor, disabled)
- Transport planning should provide facilities for cyclists
- Pedestrian-oriented landscape should be promoted in Lahore
- Citizens need to overcome social stigmas
- Proper sidewalks and street-scaping should be provided for citizens
- Pedestrian safety should be given preference over signal free corridors and such automobile dominated initiatives
- Street activities and encroachments need proper management and enforcement

STEP 6:

**Framework for
Economic Stability**

- Planning should aim to reduce environmental degradation
- Green spaces and trees should be preserved and protected
- Urban design and public spaces should be given priority

ENDNOTES:

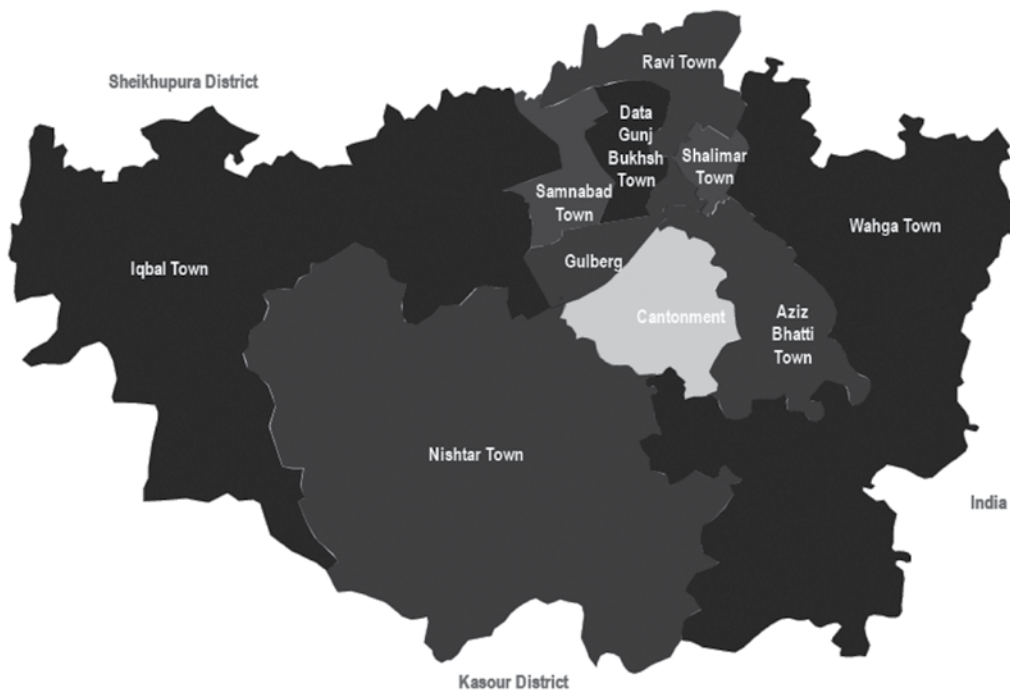
1. Muhammad Imran & Nicholas Low, "Time to Change the Old Paradigm: Promoting Sustainable Urban Transport in Lahore, Pakistan," *World Transport Policy and Practice* 19, no. 2 (2003).
2. Lahore has a network of 2000 km roads and 20% of this length is occupied by road side parking. There are only 3 parking plazas of TEPA with capacity of 750 vehicles. Traffic accident rate is highest on Ferozpur road, Multan road, GT, Canal bank and Lahore ring roads. The real contributing factors have not been identified and hence cannot be addressed. Heterogeneous traffic mix is largest determinant of traffic fatalities. Bicycle users feel unsafe in the existing traffic mix and transport environment and cars are considered most safe. For more information, see Japan International Cooperation Agency, *Lahore Urban Transport Master Plan*, (Lahore 2011).
3. Lahore has 66,000-80,000 rickshaws. In some cases, young boys even below the age of 18 drive qingqis and rickshaws on illegal self-defined routes. Some of the young drivers drive recklessly as they lack awareness to drive vehicles in mix traffic. For more information, see *Lahore Urban Transport*, 2011.
4. It is estimated that there are about 40,000 qingqis with 5,000 route permits which are being operated in Lahore. For more information, see MVA Asia, *Institutional Development of a Traffic Management Unit for Ferozpur Road* (Lahore, 2007).
5. Sustainable transport calls for balanced pursuit across multiple dimensions, economic, environmental and social. For more information, see Paul A. Barter, "Singapore's Urban Transport: Sustainability by Design or Necessity?" in *Spatial Planning for a Sustainable Singapore*, eds. T. C. Wong et al (Springer, 2008).
6. MVA Asia, *Institutional Development*, 2007.
7. Urban Unit, *Urban Transport Policy for Five Cities of Punjab Province* (Lahore: Urban Unit, 2008).
8. Taking the remodeling of Mall road/ Zafarali road for example, TEPA spent well over Rs. 100 million while violating environmental laws to provide automobile access to Gulberg 5, for the urban elite who own cars and spent over a 100 million on short-term elitist development for a small minority. See RafayAlam, "The Farce of Ignoring the Obvious," *The News*, 20 October 2008.
9. MVA Asia, 2007.
10. For example, the urban poor who own hand carts; push carts, laboring jobs, and non-motorized vehicles.
11. Yordphol Tanaboriboon, *Regional Development Dialogue* 13, no. 3 (1992).
12. Priority is given to cyclists, pedestrians and public transport. Private vehicles may be completely or partially excluded. European cities have pedestrianised zones in their old city centers.
13. This is done in Singapore and even in Tehran where vehicles must buy a monthly pass or daily ticket to enter central city during peak hours.
14. Private vehicles can be discouraged by high taxation. China, Korea, Denmark, Singapore, Hong Kong discourage car ownership.
15. Good example might be Singapore where tolls are placed on certain roads.
16. Having staggered work hours, many countries are becoming flexible about work times.
17. See Japan International Cooperation Agency, 2011. It should be noted that providing parking plazas incurs heavy expenditures while a mere parking ticket just costs over Rs. 20. The Liberty Parking Plaza costs Rs 2.5 million per car and this does not include the cost of land the plaza was built on.
18. Parking policy in Lahore is not about parking at all. It is all about rent-seeking. Hence it isn't about improving congestion or uplifting urban transport facilities in Lahore.
19. Japan International Cooperation Agency, 2011.
20. Raheem ul Haq, *Rickshaw & Environmental Pollution: Assessing Punjab Governments Rickshaw Policy* (Lahore: Centre for Public Policy and Governance, 2009).
21. According to Japan International Cooperation Agency, 2011 report, in 2010 motor cycle ownership was about 850,000. The actual number might be even more than this if we consider unregistered vehicles.
22. Affordability is usually evaluated on fuel costs or public transport costs, what is completely ignored are vehicle ownership, parking facility and road infrastructure costs which are much larger than fuel costs
23. Complete streets policy is a part of "Smart Growth America" initiative which ensures that transport engineers and planners design and operate the entire roadway keeping all users in mind which include: cyclists, pedestrians, public transport vehicles, passengers and disabled users. For more information, visit <http://www.smartgrowthamerica.org/complete-streets>
24. Japan International Cooperation Agency, 2001.

25. Cost of infrastructure along Canal: Jail road underpass constructed in 1994, Rs. 55 million; Doctor's Hospital underpass constructed in 2004, Rs. 196 million; Ferozepur Road underpass constructed in 1996, Rs.174 million; Punjab University New Campus underpass constructed in 1998, Rs. 330 million; Punjab University underpass near Hostel No 2 constructed in 2005, Rs 98.6 million; Mall Road underpass constructed in 1993, Rs. 243 million; FC College underpass constructed in 2004, Rs. 288 million; Jinnah Hospital underpass constructed in 2004, Rs. 190 million; Punjab University underpass near Hostel No. 14 constructed in 200, Rs. 98.6 million; Gulzar underpass constructed in 2007, Rs. 489 million; Shalimar Interchange constructed in 2010, Rs. 3.6 billion. For more information, see Rafay Alam, "Hidden cost of infrastructure Development" *Express Tribune*, 21 March 2011.
26. Majid Shiekh, "Metrobus: Mobility and Sensibility," *Dawn*, 24 January 2014.
27. See Pablo Chan, *Advanced Transportation Management Technologies*. Its chapter 6 entitled "Transit Management Systems" is available at: ntl.bts.gov/lib/jpodocs/eddocs1/13480/ch6.pdf. It says that an integrated public transport system, hardware category includes network, modes of transport and urban fabric. Software category includes operation of scheduling, fare systems, marketing and management.
28. *Fare integration*: one type of ticket or card can be used for all modes of public transport. *Information integration*: information is easy to find and provided by a single body (a single map, information booklet, one telephone hotline). *Physical integration*: properly designed waiting areas and transfer facilities for all modes, and transfer distances are minimized. *Network integration*: a comprehensive systems of routes and schedules carefully planned
29. Japan International Cooperation Agency, 2011.
30. Lahore Transport Company is Bus Rapid Transit System (BRTS) but does not have dedicated lanes and has to share roads with regular traffic with no right of way privileges. Hence the BRTS in Lahore is just a name and not a proper BRTS system.
31. It is estimated that there are about 40,000 qingqis with 5000 route permits which are being operated in Lahore. For more information, see MVA Asia, 2007.
32. Tourism routes: The mall road, Walled city, Inner city Gates, Janagir tomb route, Chah Miran shrines, Shahlamar road shrines, Shah Jamal city shrine, Wagah border route.
33. Our transport planning favors the automobile oriented sprawl and discourages urban land use development.
34. The pink bus service for female commuters in Lahore city was launched in January 2012 to combat harassment and to make women feel secure. The service was launched by the Lahore Transport Company and there were in total three buses which operated. Although it was considered a good initiative by most women, the service was a colossal failure and had to be terminated. Three buses in total were not able to meet needs of female commuters who use public transport as their daily mode of transportation
35. A. Rahman & Paul Barter, "Transport and Urban Poverty in Asia: A Brief Introduction to Key Issues," UNCHS (Habitat) Regional Symposium on Urban poverty in Asia, 1998. Online: http://www.fukuoka.unhabitat.org/docs/occasional_papers/project_a/06/transport-barter-e.html
36. International women's day was celebrated by female citizens of Islamabad where they navigated the streets on bicycles in large groups. See Express Tribune, "Women Pedal for Girl Power in Pakistan," 8 March 2013.
37. A. Rahman & Paul Barter, "Transport and Urban," 1998.
38. Jay Walljasper, "How to Restore Walking as a Way of Life," *Project for Public Spaces*, 2014. Online: <http://www.pps.org/blog/how-to-restore-walking-as-a-way-of-life/#.VE7B1oDBtDZ.twitter>
39. For more information, visit <http://cmlahore.blogspot.com/>
40. Convenient passages for cyclists, separate light signal for cyclists etc.
41. Putting police on cycles like in U.S Dayton Town might encourage others to use cycles as well.
42. A. Rahman & Paul Barter, "Transport and Urban," 1998.
43. As walkers take the shortest path, pedestrian bridges and underpasses should be used only when necessary. As these are traffic facilities not pedestrian facilities, and cause great inconvenience to pedestrians and a complete barrier to disabled.
44. Shared space is an urban design approach which seeks to minimize demarcations between vehicle traffic and pedestrians, making the area more pedestrian friendly. Achieved by removing features such as curbs, road surface markings, traffic signs, and regulations. Such schemes have had positive effect on road safety, traffic volume, economic vitality, and community cohesion where a user's behavior becomes influenced and controlled by natural human interactions rather than by artificial regulation. Shared spaces have been successfully implemented in UK,

Germany, Netherlands

45. Traffic calming reduces vehicle speed and minimizes traffic accidents, it enhances pedestrian and street activity and makes streets safe. In Japan, area wide traffic regulation called “Life Zone” was initiated with lowered speed limits, and Japan has over 10,000 such zones.
46. Zig-Zag streets is a community street movement in Japan, such streets increase tree plantation, bumps and raised intersections.
47. A. Rahman & Paul Barter , “Transport and Urban,” 1998.
48. In Surabaya’ Kampung, residents enforce their own bans on vehicular use and install speed restriction devices. When motorists enter they have to dismount upon entering alleyways.
49. Shoe making, leather work fruit vendors.
50. Complicated licensing systems to charge rents creates over-bureaucratic administrative procedures and such opportunities lead to corruption.
51. Polish journal of environmental studies, On EPA’s recommendation 2-stroke rickshaws were banned as they were harmful for the environment
52. One near Jinnah Hall and the other near Township Area. To analyze air quality of the city from two different areas, a populated zone and the other less populated locality. Units are a part of an on-going improvement project and have been presented by Japan Government.
53. Parks and Horticultural Authority has about 3000 gardeners on its payroll, which are still not enough.

ANNEX I: LIST OF TOWNS IN LAHORE



Source: NESPAK, Integrated Master Plan for Lahore, 2021.

1. Ravi town
2. Data Gunj Baksh Town
3. Shalimar Town
4. Samnabad Town
5. Gulberg
6. Iqbal Town
7. Wagha Town
8. Cantonment
9. Aziz Bhatti Town
10. Nishtar Town
11. Johar Town

ANNEX II: TRANSPORT RELATED AGENCIES AND THEIR RESPONSIBILITIES

Responsibilities for Physical Infrastructure

1. CDGL office of Works and Services, under EDO (W&S), Government of Punjab main agency responsible for the management of the urban street system
2. Lahore Development Authority (LDA), Government of Punjab, City District of Lahore(both)
3. Department of Communications and Works (C&W), City District of Lahore
4. Urban Unit of Planning and Development Department (UU), City District of Lahore
5. Cantonment Boards + Defence Housing Authority (Government of Pakistan), GoP, CDGL
6. National Highway Authority (NHA) (Government of Pakistan), CDG

Responsibilities for Public Transport (Transport policy and planning, permits for mini buses and wagons)

1. Transport Department, City District of Lahore
2. District Regional Transport Authority, Government of Punjab

Responsibilities for Public Space Management (Parking, encroachments and traffic safety)

1. CDGL office of Municipal Services, under EDO (MS), GoPb
2. CDGL office of Revenues, under EDO (Rev.), GoPb
3. Parks and Horticultural Authority (PHA), Lahore
4. Traffic Police Authority

ANNEX III: LIST OF REGISTERED VEHICLES (5 YEARS)

Type of Vehicle	2009	2010	2011	2012	2013	2014
Ambulance	33	267	384	102	177	35
Bus	225	460	1,386	1,623	1,856	1,570
Mini bus	0	3	4	3	1	4
Motor car	19,691	47,129	51,932	61,451	64,911	39,858
Motor car (NLuxury)	330	374	226	123	86	41
Motorcycle/scooter	74,409	199	216,162	240,296	298,753	171,004
Non ac bus	168	432	212	21	31	26
Pickup	791	2,028	2,356	2,740	2,586	1,259
Rickshaw	5,446	14,038	12,579	9,769	10,966	9,042
Wagon	169	362	493	425	1,285	964

Source: Source: Excise & Taxation Department of Punjab September 2014

ANNEX IV: TRANSPORT PLANNING STUDIES CONDUCTED

Key Master Plans in Lahore	Timeline	Summary
Town Planning in Lahore – A Master Plan	1917–unknown	<ul style="list-style-type: none"> -Prepared by Scottish town planner Patrick Geddes. -‘Conservative surgery’ approach to maintain Lahore’s unique characteristics
Master Plan for Greater Lahore	1965–1980	<ul style="list-style-type: none"> -Prepared by foreign consultants, Colombo Plan Advisors on Town Planning and Housing and Government of Punjab. -Proposed Lahore as a metropolitan core with peripheral self-sustaining industrial towns. Major proposal includes limited-access ‘Circumferential Arterial Road’ (later called ring road) complemented by new bridges, major road upgrades, grade-separated intersections and provision of underground and multi-storey car parking, a circular railway, and the provision of cycle tracks on main roads
Lahore Urban Development and Traffic Study (usually called the Lahore Structure Plan)	1980–2000	<ul style="list-style-type: none"> -Prepared by foreign consultants and experts from the World Bank residents mission in Pakistan -Funded by the World Bank. -Proposed establishing TEPU (now TEPA) under LDA. -Proposed the construction of a ring road named the ‘Southern Bypass’
Model Urban Transport System in Lahore	1980	<ul style="list-style-type: none"> Funded by Volvo International Development Corporation. -Provided a Trip Generation Model to estimate travel demand. -Recommended a mixed public and private bus-based public transport system

Punjab Urban Development Project	1988–1997	-Financed by the World Bank. -Particular focus on improving the road geometry in Lahore
Comprehensive Study on Transportation System in Lahore	1990–2010	-Prepared and funded by JICA. -Major proposal includes introduction of the Light Rail System in Lahore

ANNEX V: WEBSITE DETAILS FOR TRANSPORT AGENCIES

Department Name	Official Website	Facebook Page	Complaint/Suggestion Form
CDGL	✓	✓	✗
LDA	✓	✓	✗
C & W	✗	✓	✗
Environmental Protection Department (EPD)	✓	✓	✗
P & D	✓	✗	✗
Excise & Taxation	✓	✓	✗
Urban Unit	✓	✓	✗
NHA	✓	✓	✗
TEPA	✗	✗	✗
PHA	✓	✓	✗
City Traffic Police Lahore	✓	✓	✓
Lahore Parking Company	✓	✗	✗
LTC	✓	✓	✓
PMA	✓	✓	✓

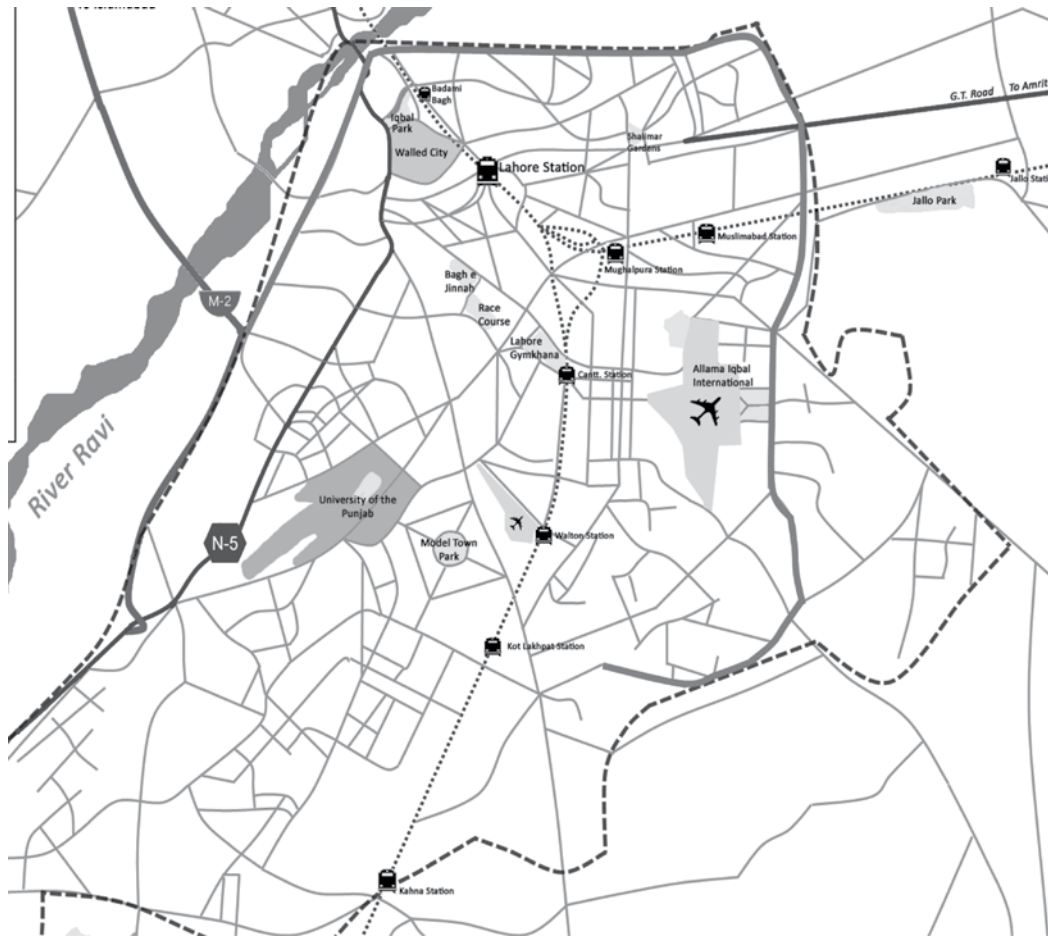
ANNEX VI:TEPA'S FUNCTIONS

- Comprehensive transportation planning;
- Design and implementation of traffic engineering and traffic management programs,
- Definition of design standards and standard specifications; Monitoring and regular traffic surveys;
- Road accident data collection and analysis
- Design and implementation of pedestrian facilities
- Public transport planning and route design
- Design, installation and maintenance of traffic signals, roads signs and road markings;
- Development and implementation of a parking policy;
- Activities with regard to the removal of encroachments

ANNEX VII:TIMELINE OF TRANSPORT PLANS

Year	Study/Master plan
1966	Great Lahore Masterplan
1980	Lahore urban Development & Traffic Study (World Bank)
1991	Lahore Transport Masterplan (JICA)
1992	The Ring Road Study (Private Sector)
1993	Light Rail Transit Feasibility Study (World Bank)
1997	Ring Road (Private Sector)
2001	Integrated Masterplan Lahore 2021 (LDA)
2004	Lahore Ring Road Project (C & W)
2005	LRMTS Study (TD & GoPb)
2006	Ferozpur Road Project (P&D)
2010	LUTMP (JICA)

ANNEX VIII: RAILWAY STATIONS IN LAHORE



1. Railway Stations
2. Badami Bagh station
3. Lahore Station
4. Mughalpura station,
5. Muslimabad station
6. Jallo station
7. Cantt station
8. Walton station
9. Kot Lakpat station
10. Kahna station.

ANNEX IX: PUNJAB METROBUS AUTHORITY

Punjab Metrobus is a government organization and established after a bill was passed in Punjab Assembly. Platform is a Turkish company which procures buses, now this company is operating and maintaining 64 articulated buses for PMA.

Main features:

- Two lane limited access corridor (10 m wide)
- Goes from Shahdara to Gajjumata (27 km)
- Has 27 stations
- Has automated fare collection system
- 64 buses with 38+1 seating capacity and total capacity of 160 per bus
- Operational model:
- Outsourcing to tap private sector efficiency
- Procurement, maintenance and operation is done by platform Tourism (Albayrak)
- Operation and maintenance of AFC-BSS (Bus scheduling system) by Inbox Technologies ltd and Kent Kart
- Security services are provided by Security 2000 pvt. Ltd
- Janitorial and housekeeping service by Lahore waste management company
- Maintenance and operation of escalators by Schindler – Merin Pvt. Ltd
- Maintenance and operation of platform sliding doors by Pak German Engineers pvt ltd
- Maintenance and operation of generators by Greevs Pvt Ltd
- Maintenance and operation of LED Lights Philips Pvt. Ltd
- Maintenance and operation of ITS –Pak German Engineers Pvt Ltd
- Maintenance and operation of CCTV BY Tech access Pakistan Pvt. Ltd
- Maintenance and operation of Public Address System-Nasco Traders
- Maintenance and operation of video wall and controllers –Al-Futtaim Pakistan Pvt. Ltd
- Average daily ridership: 150,000
- Daily trips per day: 717
- Serves as forerunner for LRT
- Physical infrastructure compatible for LRT

About the Author

Sarah Mushir is an architect, urbanist and planner. She has a masters degree in international planning and development from Cardiff University, UK and architecture degree from National College of Arts, Lahore. She also runs her architecture and planning firm "Structure | SR Allied Works". Sarah's research interests include planning and governance of human settlements, town and regional planning, architectural and urban regeneration, transport planning, cultural and heritage conservation, housing and the urban poor, urban design, environmental policy.

She can be reached at: sarrah.mushir@gmail.com

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